

Amendments to the Claims

Claims 1-8 (cancelled).

Claim 9 (previously presented): A timing detecting device, comprising: the reverse spreading device of Claim 19; and a peak detecting circuit configured to receive the correlation value of the I component and the correlation value of the Q component, and detect spreading timing as a function of sizes of the correlation values of the I and Q components.

Claims 10-16 (cancelled).

Claim 17 (currently amended): A method for measuring a frequency error being a difference between a reference frequency of a receiver and a reference frequency of a sender comprising the steps of:

- counting how many chips of complex base band signals are to be input;

- performing a rotation correction in a step-by-step manner by rotating a phase of said complex base band signal on a complex plane at a phase rotation angle at m-stages each being slid by a reference rotation angle being an angle obtained by dividing a rotation angle ~~(2π)~~ (2π) of a revolution to M portions every time said counted number of the chips ~~increases~~ increases by K-chips;

- producing a multiplied value by multiplying the rotation corrected complex base band signals by spread signals;

- producing a correlation value of I component of said multiplied value and a correlation value of Q component of said multiplied value by adding said multiplied value in an accumulative manner for every I component and every Q component during one symbol period;

- calculating a power value of the complex base band signal in said one symbol period based on said correlation values of said I component and said Q component; and

- selecting said reference rotation angle so that said power value becomes maximum.

Claim 18 (previously presented): The method according to claim 17, further comprising detecting said frequency error based on said reference rotation angle selected.

Claim 19 (currently amended): A reverse spreading device for reversely spreading complex base band signals, each of said complex base band signals being composed of an I component and a Q component and being spread by spread codes, said device comprising:

- a frequency error ~~correcting~~ corrector to count how many chips of said complex base band signals to be input and to perform a rotation correction in a step-by-step manner by rotating a phase of said complex base band signals on a complex plane at a phase rotation angle at m-stages each being slid by a reference rotation angle every time a count of the chips increases by K-chips;

- a spread code multiplier producing a multiplied value by multiplying each of the rotation corrected complex base band signals by said spread codes;

- two accumulative adders to produce a correlation value of I component of said multiplied value and a correlation value of Q component of said multiplied value by performing accumulative addition of said multiplied value for one symbol period;

- a power calculator calculating a power value of said complex base band signal in said one symbol period based on said correlation values of said I component and said Q component; and

- a selector selecting said reference rotation angle so that said power value becomes maximum.

Claim 20 (previously presented): The device according to claim 19, further comprising a frequency error detector detecting a frequency error based on said reference rotation angle selected by said selector.